

# DTCD Newsletter

A quarterly of the United Nations Department of  
Technical Co-operation for Development

Volume 3 Number 1 March 1990

## UNDTCD in 1989: largest programme

Expenditures on UNDTCD-executed projects rose to over \$162 million in 1989, \$13 million or nearly 9 per cent more than in 1988. As a result, the Department delivered the largest programme in its history in 1989. This was also the second year in a row of growth for the UNDTCD programme.

Natural resources and energy remained the single largest area of UNDTCD work, reversing the drop in 1988 with a 5 per cent increase. Within this area, the water resources programme grew by an impressive 26 per cent, while the minerals programme followed last year's trend with a 20 per cent increase in delivery.

Statistics and population for the first time comprised the second largest UNDTCD programme, growing by over \$7 million or 23 per cent. Public administration and finance increased by nearly \$3 million, or 12 per cent, while development planning activities increased by some \$3 million, 10 per cent over 1988.

## Also in this issue:

- 2 Namibian profile
- 3 Disability statistics
- 4 Colombian coal
- 5 Water plan for Jamaica
- 6 West African minerals
- 7 Women in development
- Land information
- 8 New publication
- Workshops and seminars

## Tapping oil in a desert frontier



Through a major new project begun in March 1990, UNDTCD is helping China search for petroleum in one of the largest, least explored sedimentary basins in the world. Located in Xinjiang province in far western China, the Tarim basin is rich in oil and gas resources but one of the most difficult desert regions in the world in which to operate.

The three and a half year project, which is receiving close to \$6 million from UNDP, is helping the Ministry of Geology and Mineral Resources' Northwest China Bureau achieve state-of-the-art drilling operations and quantify oil and gas reserves as they are found.

With oil and gas fields in eastern China reaching a point of decline, tapping petroleum resources in more remote areas has been a government priority. The government's oil exploration efforts in the Tarim basin, however, have not achieved expected results due to the basin's difficult

topography and China's lack of experience in dealing with the specific challenges it presents.

For example, in the Tarim basin wells must be much deeper than in the eastern oil fields, and this means higher pressures and temperatures. Other problems faced include alternating pressure regimes in wells, salt water flows into the wells, and massive salt beds. In addition, rigs are not equipped for winter operations.

The project has two main objectives. The first is to upgrade the largest oil rig now being used to enable it to drill deep wells quickly and efficiently. The expected significant reduction of drilling time per well should raise the productive use of expensive drilling equipment. Two demonstration wells will be drilled with this state-of-the-art winterized equipment which will serve as models for future development of oil and gas in this remote area.

[See Tapping on page 8]

best copy available

## Namibia: providing a new profile for a new start



On the eve of Namibian independence missions were undertaken by UNDTCD/Statistical Office and the Population Division of UN/DIESA to draw up an estimate of the country's population and national accounts and per capita gross domestic product (GDP). Such estimates allow UNDP to calculate Namibia's Indicative Planning Figure (IPF), the amount of grant development assistance this country is entitled to receive.

The missions, undertaken between mid-October and early November 1989, prepared 168 statistical tables covering population, manpower, education, health, agriculture, fishing, mining, industry, electricity

and water, construction, trade, transport, government finance and banking, price indices and household incomes and national accounts.

The data compiled, while still provisional, provides an extremely useful snapshot of the human and economic resources of the world's newest country and hints at some of the formidable development challenges Namibia now faces.

The main source of demographic information on Namibia were the censuses of 1970 and 1981. Namibia's population in 1989 was estimated to be 1.7 million and it is growing at about 3 per cent each year. Some 45 per cent is under 15 years old and roughly 88 per cent is black. Most

people (58 per cent) live in the three northern districts of the country.

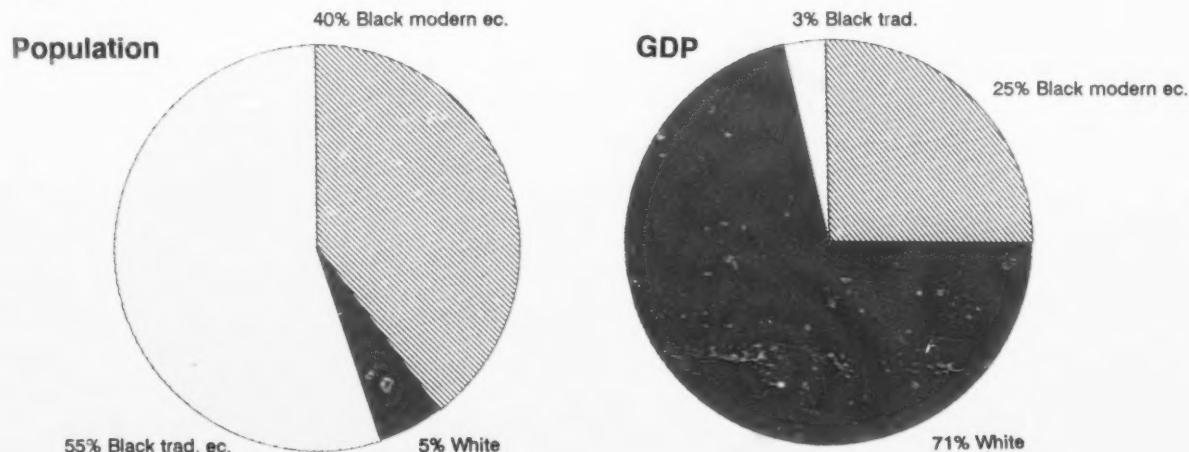
The economic data deals mainly with the market and commercialized economy due to the scarcity of statistics on the subsistence economy. This data indicates that the mining sector contributes roughly 30 per cent of the GDP, the government sector about 19.9 per cent, agriculture and trade both contribute some 12 per cent, banking roughly 6.7 per cent, transport around 5.9 per cent and industry about 4.7 per cent.

The missions estimated that in 1988 Namibia's per capita income was roughly \$1,184. However, the salient feature of the country's economy is its dualistic nature. Two separate economies exist side by side in Namibia: a modern sector employing sophisticated technologies and methods in the production process, and a traditional sector. For this reason the missions were careful to break down per capita GDP by groups of population in accordance with the economic sector they are associated with (see charts).

This initial, pre-independence statistical work in Namibia is to be followed up by projects supporting the development of the country's capacities in statistical activities.

### Namibia in 1988

Provisional estimates



## The disabled: better data for better programmes

For governments to formulate appropriate policies and programmes for the disabled they must first know the size and the specific characteristics of this particular population group. To date, this has not been an easy task. While population censuses and household surveys often include questions about disability, there is no standard survey handbook or detailed set of international recommendations for data collection and analysis. Statisticians often confront a bewildering variety of detailed impairments and disability codes from surveys, jumbled together without benefit of a meaningful conceptual framework. As a result, the findings of surveys about disability are frequently underutilized or disregarded altogether.

### First disability statistics workshop

To address this problem, UN-DTCD and the United Nations Statistical Office organized the first international training workshop in disability statistics in Malta from 27 November-6 December 1989. Co-hosted by the Government of Malta, Ministry for Social Policy and the International Institute on Aging (INIA), the workshop on "Census and Survey Methods for the Study of Impairment, Disability and Handicap" sought to



Informal gathering of seminar participants from China, Cyprus, Ghana, Iraq, Jamaica, Lebanon, Malta, Mauritius and Peru

strengthen national capabilities to produce and use demographic and social statistics to answer policy-related questions concerning disablement.

The workshop covered survey research design, development of survey concepts, data collection instruments, sampling methods, field methods, classification, coding and data analysis plans, development of standardized cross-tabulations for national and international use and alternative dissemination strategies.

### A census for Fictitia

A total of 33 international participants from Africa, Asia and Latin America and 29 observers from Malta attended the workshop, which was run like a graduate training seminar. After morning lectures, in the afternoons four different working groups developed project proposals for the collection of disability statistics while conducting either a census or a survey for the country of "Fictitia". The working groups also studied resource materials provided by the United Nations and national statistical work in the area of disability brought by the international participants. A resource table was provided where participants

submitted national work for review by all workshop members.

Most participants felt that the most challenging aspects of working in this new field of statistics were agreeing upon standard definitions and concepts and learning to frame questions about disability in a ways both culturally and socially acceptable to the persons potentially being interviewed in censuses and surveys. Progress was made in these areas by the workshop, most trainees concurred, and steps taken towards the important goal of formulating international statistical guidelines in the field of disability.



## Colombian coal production gets a boost



Colombia has substantial geological reserves of high-quality coal seams at little depth. In addition to meeting its own needs, Colombia is becoming one of the world's largest exporters of steam coal, much of which can be extracted at a much lower cost than the subsidized coal produced at a depth of one kilometer and more in Western Europe. With markets mainly in the Mediterranean region but also in Asia, the country's main difficulty in developing these huge coal reserves is the massive investment required to transport the coal from mining areas to suitable seaports.

In 1976, the state coal company (CARBOCOL) negotiated an agreement with EXXON to develop a 15 million metric tons per year coal mine (Carrejon Norte), requiring an investment of approximately \$3 billion. CARBOCOL, a joint venture partner under the Colombian "Association Contract" model, had to contribute half of the investment capital which was largely borrowed in the international capital market. Subsequently, the coal price declined from about \$80 per ton assumed in the feasibility study to about \$40 per ton currently, and CARBOCOL, fully exposed to the price and technical risk of the project, had to continue to pay interest and amortize its international debt

while it received far less revenue than anticipated.

### World Bank support

As a result of this situation UNDTCD was asked by the Colombian government to design and manage a project to provide investment advisory support to CARBOCOL. The project, which runs from 1986 to mid-1990 and is funded by the World Bank, was designed to help CARBOCOL prepare a new investment contract policy to promote additional coal investment, retain the maximum of direct financial benefits (taxes, participation income) and indirect benefits (economic linkages, technology transfer, domestic business development), while minimizing the exposure of the state company and the country to the significant commercial and financial risk of large scale coal investment.

### Model agreement

Managed through a close, productive and intensive partnership between UNDTCD investment advisory services and CARBOCOL, the project has provided international and national expertise on computer-supported financial and risk analysis of the various options for shaping investment agreements, as well as a market study of prospective investors in Colombian coal, with special emphasis on the emerging Asian investors. The

project also appraised the relative and competitive position of Colombia's conditions. As a result, the CARBOCOL/UNDTCD project is now in the final stages of preparing an improved model agreement for future negotiations and a manual for negotiating such deals.

A major achievement of the project is the successfully negotiated coal investment agreement of 1988 between CARBOCOL and a United States coal producer. Total investment is estimated at approximately \$600 million and a 10 million ton per year coal mine is under consideration. This agreement does not include exposure of CARBOCOL to the risks of debt-financed equity investment in a capital intensive and price volatile business. The agreement was reviewed, on request of the Minister of Mines and Energy, by the UNDTCD mineral investment adviser.

In addition, due to the current world interest in gold, the project organized a seminar to familiarize Colombian decision-makers with all facets of gold investment: marketing, legal negotiations, political risk assessment and investment promotion. In the context of related UNDTCD support to the mineral development policies of the Ministry of Mines and Energy, investment advisory services have also helped the government to enact a new mineral development code for the country.

The fruitful collaboration between CARBOCOL, the government of Colombia, UNDTCD and the World Bank suggests that ad-hoc, short-term investment advisory missions rarely achieve lasting results. The key to effective technical assistance in the field of investment promotion seems to be in-depth interdisciplinary international expertise on the basis of a continuous, long-term relationship. As familiarity between both parties increases, it becomes easier to harness the technical expertise of UNDTCD investment advisory services and to make them fully applicable.

## A new water resources master plan for Jamaica

As the century comes to a close it becomes clear that competition over water resources could become an increasing source of conflict among countries sharing a common river or aquifer, between provinces each wanting a "fair share" of the resource and among the various user categories, including agriculture and industry. Rapidly increasing populations and socio-economic development have made water resources more scarce and contaminated. With no substitute for water, it has become necessary for all countries—even those with abundant resources—to use water more rationally and efficiently.

To do so, the Water Resources Branch of UNDTCD has found it essential to have a plan for water resources development and management which is closely related to the overall socio-economic development plan of the country. UNDTCD has provided technical assistance in the formulation of such water master plans to many countries.

### Island challenges

While in all countries water resources planning and management require considerable knowledge of water resources and use and advanced technical capability, the situation is even more difficult in island countries because of their isolation and limited and fragile resources. For this reason, for the past 20 years UNDTCD has been deeply involved in the assessment, development, planning and management of water resources on island countries of the Pacific and Indian oceans, the Caribbean and other areas.

A water master plan about to be completed with UNDTCD assistance is for Jamaica, an island whose water resources should be adequate if well-managed. Work on the plan began in 1984, financed by UNDP, the Israeli Association for International Co-operation (MASHAV) and the Government of Jamaica, and with staff



The input was sought of these national and sectoral planners, seen here at a recent seminar on the master plan

from UNDTCD (including local experts), Israel and Jamaica. The Water Resources Development Master Plan of Jamaica project is being carried out by the Underground Water Authority, part of the Ministry of Agriculture.

The search for and supply of water in Jamaica has been a priority development challenge for some time. Recurring shortages have involved important economic losses as well as inconvenience. The absence of an adequate framework within which to make decisions relating to the options for developing and supplying water and the need for environmental protection have led to much confusion, delay and financial setbacks.

### Multipurpose plan

Several water supply studies and reports had been undertaken before the project began, mainly directed towards single purpose uses of water—domestic, industrial, agricultural or hydro-power. The National Water Plan takes a multipurpose approach which rationalizes sub-sectoral activities and provides a framework for developing water resources and strategies to meet current and future demands in the agricultural, water supply and industrial sectors.

It also provides guidelines to planners for locating new developments and is the basis for integrating efforts in the development of local, regional and national water resources. The new plan includes inventories of Jamaica's water resources and demand for water, economic analyses of alternative methods of water development and computerized simulation models for the development and management of water resources in hydrological basins.

The preliminary edition of the Water Resources Development Master Plan has been presented to national and sectoral planners whose activities depend on the availability of water resources. The response and input of these planners is being incorporated into the final edition of the plan which is expected to be completed in June 1990.

## Wanted in West Africa: mineral sector investment



West Africa, which comprises some 21 per cent of the African continent, has such a high concentration of mineral occurrences and deposits it is considered one of the world's few metallogenic provinces. Mineral discoveries made in West Africa with assistance from the Mineral Resources Branch of UNDTCD include the gold deposit at Syama in Mali, which is now being mined, the Perkoa lead-zinc deposit in Burkina Faso, to be developed by a major mining company, the Tamboa manganese deposits, also in Burkina Faso, and several non-metallic deposits in Benin and Togo.

### Risk capital sought

Despite the rich mineral potential of West Africa, many projects have not gone beyond the geological reserve evaluation or pre-feasibility stages. Due to its weak financial base, the region has been unable to mobilize the risk capital needed for mining sector development, and the mining industry's share of the West African economy has been steadily decreasing over the past few decades.

With a view to helping the countries of this region attract minerals sector investment, the

Mineral Resources Branch of UNDTCD organized the regional seminar on "Mining Exploration and Investment Potential in West Africa" which was held in Yamoussoukro, Côte d'Ivoire from 11-15 December 1989. Hosted by the Ministry of Mines of Côte d'Ivoire, the seminar invited high level government officials, international mining sector representatives and international financing organizations to review the situation facing the mining industry of West Africa and to discuss how to foster minerals development in the region.

Some 160 participants attended from Algeria, Benin, Burkina Faso, Cameroon, Côte d'Ivoire, Gabon, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Morocco, Senegal, Sierra Leone, The Gambia and Togo, as well as from Europe and North America.

Key issues facing West Africa with regard to prices and supply were addressed at the seminar and a round table on legal and investment issues was organized. Among the conclusions reached was that because in recent years remote sensing and airborne geophysics had greatly improved knowledge of the region's geological environment, the duration

of exploration campaigns and labour costs have been reduced.

The seminar recommended that West African governments promote mineral exploration programmes and mining development projects. They were also encouraged to restructure their mineral research and development institutions in order to make them more effective and productive as well as capable of providing guidelines for the implementation of legal and tax regimes conducive to private investment.

Mining companies, on the other hand, were invited to look favourably at the region's mineral potential. Finally, the United Nations and other international institutions were urged to increase their assistance to nations of the region.

### Follow-up action

As a result of this seminar, representatives from three major mining companies have undertaken fact finding and follow-up tours of several West African countries whose mineral potential has been established.

## Land information: state-of-the-art techniques

There was time when you knew little more about a geographic area or a specific plot of land than its size. Now, combining concepts and procedures from many different disciplines, including map production, spatial analysis and data base management, detailed pictures of blocks of land emerge with data on such features as topography, soils, cover, geology, surface and subsurface hydrology, waterways, ownership, zoning, water and sewer districts, census tracts, and mine operations. Such land information systems, which provide timely, accurate, multi-faceted data, have become powerful resource planning and management tools.

The need for such tools in today's world is pressing. In both developed and developing countries, the pressures on land and the need to strike a balance between the exploita-

tion and conservation of land resources have lent a sense of urgency to resource management issues. In developed countries, the need to determine the effects of environmental pollutants on both people and the environment has become a major issue on the policy agenda. In less developed countries, achieving a basic level of sustainable development has been a major driving factor. And everywhere, a compact information system on the features and uses of land is required for statistical, taxation, planning, agricultural and mineral development and human settlement purposes.

To disseminate the latest techniques in this field, a United Nations Interregional Seminar on Land Information Management in the Developing World was convened by UNDTCD and the Australian Government from 4-14 February in Adelaide, Australia.

Participants from 20 developing countries attended, together with international consultants and experts in land information systems.

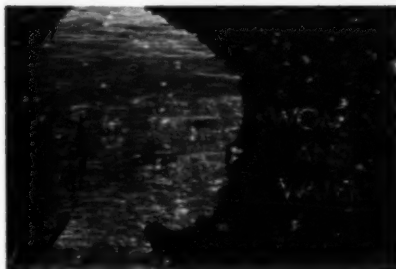
The seminar included six days of discussions on techno-economic issues and a review of case studies from developing countries as well as working sessions on key problems of developing countries in land information systems and management.

UNDTCD's Natural Resources and Energy Division has been contributing to the development of such systems over the years through projects involving both conventional methods of natural resources inventories and assessments and highly sophisticated means, including satellite technology. This work was reviewed during the seminar, as was the award-winning integrated land in-

[See **Land** on page 8]

## Women in development: training packages

Multi-media training packages on "Women, Water Supply and Sanitation" are to be used in various water resources projects and training programmes assisted by UNDTCD. Developed in 1986 by the United Nations Research and Training Institute for the Advancement of Women (INSTRAW) and the International Labour Organisation (ILO)/Turin Centre, the packages are being updated, expanded and improved with resources from the Regular Programme for Technical Cooperation of the United Nations.



The packages are aimed at raising awareness among water resources professionals, including engineers and senior planners, of the importance of involving women at all levels of water resources development. Drawing on experiences of recent years, the revised version will emphasize that women's participation makes technical projects more successful in the long run, especially in rural areas, because women provide reliable operation and maintenance support and contribute to consistent financing of recurrent costs. Also to be stressed is that their participation is directly related to their perception of the economic benefits they derive from projects. Another key message to be conveyed is that water projects are not service projects which primarily benefit the women and children who carry water, but economic development projects which free time for productive work, income generation and social development.

INSTRAW and UNDTCD have been partners in efforts to promote women in development for almost a decade. UNDTCD has sponsored or provided support to a number of seminars and workshops on women's participation in the water resources sector. UNDTCD and INSTRAW have worked together in the extensive programme developed by the United Nations Statistical Office to improve statistics and indicators on the situation of women, and UNDTCD has recently recruited a Senior Technical Advisor in this field under a Trust Fund arrangement. In addition, UNDTCD is participating in the new INSTRAW programme on "Evaluation Methodologies for Women in Development Programmes and Projects". Finally, discussions are underway for a collaborative effort to promote women's involvement in the field of new and renewable energy resources.

## New publications

### Public enterprises and competition

Are public enterprises necessarily inefficient? Is privatization a guarantee of improved performance? What are some of the factors which can contribute to the efficiency of any enterprise, public or private?

To explore these and related questions, the Development Administration Division of UNDTCD and the Industrial Development Bank of India held an interregional seminar on Performance Improvement of Public Enterprises in Developing Countries in New Delhi from 12-19 April 1989. The proceedings of this meeting, *Role and Extent of Competition in Improving the Performance of Public Enterprises* (TCD/Sem.89/2) were recently published by UNDTCD.

The 32 participants included senior government officials from 18 developing countries, representatives from international organizations, resource persons and UNDTCD staff. The seminar's point of departure was that empirical evidence strongly suggests there is no clear relationship between type of ownership of an enterprise and its performance.

More important than whether a firm is in the public or the private sector, it would seem, is the presence of competition or a competitive environment. It is the latter which provides the greatest stimulus to improvements in efficiency of enterprises, public or private. (Measuring the performance of public sector firms is dealt with in an earlier UNDTCD publication, *Performance Evaluation of Public Enterprises in Developing Countries: Criteria and Institutions*, TCD/Sem.84/5).

The seminar discussed four working papers, included in this new publication, by J.A. Kay and M.R. Bishop of the London Business School, V.V. Bhatt of the World Bank (Economic Development Institute), S. Domberger of the Graduate School of Management, U. of Sydney, Australia, and E.S. Savas, of Baruch College, U.S.A., as well as country papers from Argentina, Bangladesh, Chile, China, Egypt, Greece, Korea, Malaysia, Pakistan, Sri Lanka and Trinidad and Tobago.

As a result of these discussions, participants agreed that when governments decide to retain public enterprises in fields where private firms also exist, to the extent feasible in each country, policies should be adopted to foster competition. These could include elimination of barriers to entry, equal access to loans and credit, no price controls or subsidies, equal access to raw materials, supplies and markets, and equal application of laws.

The seminar analyzed legal and natural monopolies and the mechanisms that could generate competitive pressure on them. Among those identified were various types of franchise contracts, the decentralization of monopolies, the role of national development banks, the creation of a management culture favorable to competition and the emergence of organized consumer pressures.

The new publication is intended to help governments formulate policies for improved public enterprise performance, to stimulate further discussion of this critical subject and to be used as a resource in seminars planned by other international institutions.

It is available in English, French and Spanish by writing the Director, Development Administration Division, UNDTCD, One UN Plaza, Rm. 918, N.Y., N.Y. 10017.

## Update:

### Interregional workshops/seminars

#### 10-21 June, Finland

Electrification and power generation for developing countries

#### 1-10 May, Denmark

Roads and bridges maintenance in developing countries

---

[From **Tapping** on page 1]

The second objective is to maintain a continuous training programme for national personnel during the project to ensure that when completed, trained crews can carry on the job without a break in continuity.

Upon completion, this project should enable China to profit from some thirty years of experience of industrialized countries in dealing with technical problems such as those encountered in the Tarim basin, with appreciable savings of time and money.

---

[From **Land** on page 7]

formation system recently developed by the state of South Australia.

The seminar concluded with visits to the New South Wales State Land Information Council, the Lands Department and Lands Title Office and the Department of Minerals and Energy in Sydney, the West Australian Land Administration System, the State Taxation Department, the Department of Conservation and Land Management and a local government council in Perth.

To our readers: Your contributions, letters and views are welcome.

Correspondence should be addressed to: *DTCD Newsletter*, Room DC1-1254, New York, NY 10017.